CLAIMS

1. A method of processing and storing information in a mobile instrument, the method including: receiving metadata; storing the metadata in an information file in the mobile instrument; receiving image information from a camera; storing the image information in an auxiliary file at an auxiliary file address in the mobile instrument; generating a pointer indicative of the auxiliary file address; and storing the pointer in the information file.

2. A method according to claim 1 further including receiving further information; storing the further information in one or more further auxiliary files at one or more further auxiliary file addresses; generating one or more further pointers each indicative of a respective further auxiliary file address; and storing the further pointer(s) in the information file.

3. A method according to any preceding claim wherein the further information is sound information.

4. A method according to any preceding claim wherein the further information is image information.

5. A method according to any preceding claim wherein the metadata includes spatial metadata.

6. A method according to claim 5 wherein the spatial metadata includes distance information.

7. A method according to claim 5 or 6 wherein the spatial metadata includes global position information.

8. A method according to claim 5, 6 or 7 wherein the spatial metadata includes orientation information.

9. A method according to any one of claims 5 to 8 wherein the metadata includes input information received from a human user.

10. A method of transferring information stored in a mobile instrument, the information including a first information file containing metadata and a pointer indicative of a first auxiliary file address; and a first auxiliary file containing image information, the first auxiliary file being located at the first auxiliary file address, the method including the steps of: storing the metadata in a second information file; storing the image information in a second auxiliary file at a second auxiliary file address; generating a second pointer indicative of the second auxiliary file address; and storing the second pointer in the second information file.

11. A method according to claim 10 wherein the information further includes a third auxiliary file containing further information and located at a respective third auxiliary file address, and the first information file contains a third pointer indicative of the third auxiliary file address; and the method including the steps of: storing the further information in a fourth auxiliary file at a fourth auxiliary file address; generating a fourth pointer indicative of the fourth auxiliary file address; and storing the fourth pointer in the second information file.

12. A method according to claim 11 wherein the further information is sound information.

13. A method according to claim 11 or 12 wherein the further information is image information.

14. A method according to any of claims 10 to 13 wherein the metadata includes spatial metadata.

15. A method according to 14 wherein the spatial metadata includes distance information.

16. A method according to claim 14 or 15 wherein the spatial metadata includes global position information.

17. A method according to claim 14, 15 or 16 wherein the spatial metadata includes orientation information.

18. A method according to any of claims 10 to 17 wherein the metadata includes input information received from a human user.

19. A method of obtaining information including: acquiring image information from a camera; acquiring input information from a human user; acquiring spatial metadata from a spatial sensor; and associating the image information with the input information and the spatial metadata.

20. A method according to claim 19 wherein the image information is associated with the input information and the spatial metadata by generating one or more pointers to the input information and the spatial metadata, and storing the pointer with the image information.

21. A method according to claim 19 or 20 wherein the input information is acquired by presenting a menu of items to the human user, and receiving input indicative of a selection from the menu.

22. A method according to claim 19, 20 or 21 wherein the input information is acquired by a keypad or touch-sensitive screen.

23. A method according to any of claims 19 to 22 further including storing the image information; and retrieving the image information by searching for the input information.

24. A method according to any one of claims 19 to 23 wherein the input information is acquired by presenting a series of question, and receiving answers to the questions, wherein at least one of the questions is selected in accordance with an answer to a previous question.

25. A method according to any of claims 19 to 24 wherein the spatial sensor is a laser distance meter.

26. A processor programmed to perform a method according to any of the preceding claims.

27. A mobile instrument containing a processor according to claim 26.

28. Software for programming a processor to perform a method according to any of claims 1 ro 25.

29. A mobile instrument including: a camera; one or more spatial sensors; and a port able to be connected, when in use, to an external sensor from which the instrument may obtain further information.

30. An instrument according to claim 29 wherein the one or more spatial sensors include a distance meter.

31. An instrument according to claim 29 or 30 wherein the one or more spatial sensors include a global position sensor.

32. An instrument according to any of claims 29 to 31 wherein the one or more spatial sensors include an orientation sensor.

33. A mobile instrument according to any of claims 29 to 32 wherein the port is able to be physically connected to the external sensor.

34. A mobile instrument according to any of claims 29 to 32 wherein the port is able to be connected to the external sensor via a wireless connection.

35. A mobile instrument according to any of claims 29 to 34 further including a processor which is configured to compile a file containing information from the camera and/or the spatial sensor, wherein the processor is further configured to append to the file the further information obtained from the port.

36. A mobile instrument according to claim 35, wherein the processor is configured to compile an information file containing information from the spatial sensor, and an auxiliary file which is associated with the information file, and contains information from the camera.

37. A mobile instrument according to claim 35 and 36, wherein the processor is configured to append the further information from the external sensor to the information file.

38. A method of operating a mobile instrument, the instrument including two or more measuring devices, the measuring devices including a camera and one or more spatial sensors: the method including asynchronously controlling the supply of power to at least two of the measuring devices.

39. A mobile instrument including: two or more measuring devices including a camera and one or more spatial sensors; a first power switch operable to control power to one or more first ones of the measuring devices; a second power switch to control power to one or more second ones of the measuring devices; and a power controller capable of asynchronously operating the first and second power switches.

40. A mobile instrument according to claim 39 wherein the power controller is at least partially integrated with one of the measuring devices.

41. A mobile instrument according to claim 39 or 40 wherein the power controller includes a processor, and a device for controlling the supply of power to the processor.

42. A mobile instrument according to claim 41 wherein the device is a monostable.

43. A mobile instrument according to any of claims 39 to 42 wherein the power controller includes one or more power control lines for controlling the power switches, a camera data line coupled to the camera and one or more sensor data lines each coupled to a respective spatial sensor.

44. A mobile instrument according to any of claims 39 to 43 wherein the power controller includes two or more handshaking lines, each coupled to a respective power switch.

45. An instrument according to any of claims 39 to 44 wherein the one or more spatial sensors include a distance meter.

46. An instrument according to any of claims 39 to 45 wherein the one or more spatial sensors include a global position sensor.

47. An instrument according to any of claims 39 to 46 wherein the one or more spatial sensors include an orientation sensor.

48. A viewing device for providing an image of a field of view, the device including a marker module configured to superimpose a marker on the image, the marker including a plurality of image elements including a first element, and a second element having visual content which contrasts with the first element.

49. A device according to claim 48 further including a distance meter for measuring the distance to a datum position indicated by the marker.

50. A device according to claim 49 wherein the first and second elements are adjacent, substantially straight, parallel lines.

51. A device according to claim 50 wherein the marker includes four or more pairs of adjacent, substantially straight, parallel lines which radiate from a common central region.

52. A device according to any of claims 48 to 51 wherein the marker includes four or more lines which radiate from a common central region.

53. A device according to claim 52 wherein the lines do not intersect at the common central region, whereby the image can be viewed in the central region.

54. A device according to any of claims 48 to 53 wherein the elements are arranged in a line in an alternating pattern.

55. A device according claim 54 wherein the elements are arranged in two or more adjacent lines in a chequerboard pattern.

56. A device according to any of claims 48 to 55 wherein the first and second elements have different tonal content.

57. A device according to any of claims 48 to 55 wherein the first element is lighter than the second element.

58. A device according to any of claims 48 to 57 further including a global position sensor.

59. A device according to any of claims 48 to 58 further including a tilt sensor for indicating the tilt of the device relative to a datum direction indicated by the marker.

60. A device according to any of claims 48 to 59 further including an electronic display screen for displaying the image superimposed with the marker.

61. An instrument including two or more sensors; two or more identical generic parsers; and two or more description files, each containing description data describing an associated sensor, wherein each generic parser is configured to receive sensor information from a respective sensor and description data from a respective description file, parse the sensor information in accordance with the description data to generate parsed sensor information, and output the parsed sensor information.

62. An instrument according to claim 61 wherein the generic parser examines the sensor information and determines if there is a valid message therein in accordance with the description data.

63. An instrument according to claim 61 or 62 wherein the generic parser determines if there is a header and footer in accordance with the description data.

64. An instrument according to any of claims 61 to 63 further including a buffer arranged between each generic parser and its respective sensor.

65. An instrument according to any of claims 61 to 64 further including two or more identical communicators, wherein each communicator is configured to control communication with a respective sensor in accordance with the description data.

66. An instrument according to any of claims 61 to 65 further including two or more identical reply interpreters, wherein each reply interpreter is configured to interpret the parsed information in accordance with the description data.

67. An instrument including two or more sensors; two or more identical request interpreters; and two or more description files, each containing description data describing an associated sensor, wherein each request interpreter is configured to receive a request relating to a respective sensor, interpret the request in accordance with the description data to generate an interpreted request, and output the interpreted request to its respective sensor.

68. An instrument according to claim 67 further including two or more identical communicators, wherein each communicator is configured to control communication with a respective sensor in accordance with the description data.

69. A mobile instrument including: a camera and a distance meter mounted within a body of the instrument, a mirror pivotally mounted within the body of the instrument and towards which the camera and distance meter are directed, and adjustment means enabling a user to pivotally move the mirror to alter the aim angle of the camera and distance meter from the instrument together, without moving the body of the instrument.

70. A mobile instrument according to claim 69 wherein the adjustment means includes an adjustment wheel, a peripheral portion of which is exposed through an aperture in the body of the instrument.

71. A mobile instrument according to claim 69 or claim 70 wherein the adjustment means is mechanically coupled to the mirror.

72. A mobile instrument according to claim 71 wherein the adjustment wheel is coupled to the mirror through a slip clutch mechanism.

73. A mobile instrument according to claim 69 or claim 70 wherein the adjustment means includes an electric motor arranged to pivotally move the mirror.

74. A mobile instrument according to any one of claims 69 to 73 including means arranged to indicate the angular position of the mirror relative to a known reference plane associated with the instrument.

75. A mobile instrument according to claim 74 wherein the means arranged to indicate the angular position of the mirror comprises a rotational angle meter coupled to the axis of pivotal movement of the mirror to indicate the angular position of the mirror.

76. A mobile instrument according to any one of claims 69 to 75 wherein the instrument also includes an electronic compass.

77. A mobile instrument according to any one of claims 69 to 76 wherein the instrument also includes a GPS receiver.

78. A mobile instrument according to any one of claims 69 to 77 including an electronic compass arranged to indicate to a central processing and data recording system of the instrument the compass direction in which the camera and distance meter are aimed, and a GPS receiver arranged to indicate to the central processing and data recording system the position of the instrument.